3: Roberts S-4 (no date)1951 ED1 Rumania ED1

year. While the principal Rumanian imports were manufactured goods—textiles, iron and steel products, and machinery—the nature of these imports does show a fairly important shift between 1920 and 1938. Increasing imports of raw materials and semifinished goods (from 2 to 20 per cent of total value of imports) and a decline in finished manufactured goods (from 88 to 74 per cent) reflect the move toward industrialization. Rumania's principal exports were agricultural products (chiefly grain), timber, and petroleum products.[15] During the interwar years petroleum became the most important export, replacing cereals, which never regained their pre-1914 position.

The significance of petroleum in Rumania commerce was, of course, very great; Rumania had a more favorable balance of trade than the other Balkan states, thanks largely to its oil shipments. In addition to its importance as an export the oil industry provided the state in normal years with nearly one-third of its revenue, not including benefits to the railways which were state-operated. But while petroleum meant a great deal to Rumania's balance of trade, its importance to the whole economy should not be overemphasized. A large part of the industry was owned by foreigners, and a considerable proportion of the proceeds from exports did not reach the country in terms of foreign exchange. Moreover, the petroleum industry, being something of a lucky windfall and detached from the rest of the Rumanian economy, did not greatly influence the pattern of exports, though it added to their total value. Except for oil, Rumania's exports resembled those of the other eastern European agrarian states, with perhaps a greater emphasis upon cereals.

What were the disadvantages of this form of commerce which should have driven Rumanian governments to strain the economy in an effort to industrialize? In recent years there has been a widespread reaction against the classical theory of the international division of labor and an increasing belief that agricultural countries are trading at a disadvantage, regardless of the doctrine of comparative costs. This reaction has taken a number of forms, ranging from a reaffirmation of Friedrich List's ideas to an advocacy of economic autarky. Without becoming involved in the theory of international trade, one may observe at least three concrete ways in which the principle of international division of labor fails to satisfy an agrarian state.

In the first place, the existing international division of labor and

15. In 1928–30 the principal exports, in percentage of total value of exports, were: grain, 29.2; livestock, 6.0; timber, 14.3; petroleum, 33.0.

135 rich in salts. More accessible than these deposits are those of the sub-Carpathian hill country where upper Tertiary rocks are intensely folded in with salt-bearing Flysch deposits and have become impregnated with oil from the salt formations of the Flysch that has been forced up along lines of folding and fracture. Exploitation is mainly confined to the oil of these Pliocene rocks.

315 THE MAJOR oil-field follows the Carpathian arc from the neighbourhood of Piteşti through Târgovişte, Ploeşti in Muntenia and northward through Bacau in Moldavia to the Polish frontier (i.e. within the districts of Dambovița, Prahova, Buzau and Bacau in the Trotuş valley). There is also a small field in the Maramureş district.

THE Prahova district is the most important, producing 65 to 70 per cent of the whole, while Dambovița produces about 25 per cent. Pre-war development of oil industry was mainly in the hands of foreigners. By the 1929 Mining Law equality of Roumanian and foreign capital is provided. By an Act of 1924 the subsoil became the property of the State, which grants new leases for a period of thirty years. The State has acquired oil plot zones as permanent reserves. Oil getting is proceeding on up-to-date lines. Deeper strata are being tapped as the upper one becomes exhausted. Modern wells now reach down to about 1,800 metres. In Prahova and Dambovița State concessions are the most productive and active (e.g. Moveni and Gura-Ocnitsei). The total output of crude oil in 1933 was 7.37 million metric tons, 19.7 of the total oil products being used for home consumption.

NATURAL GAS is also tapped in the oil-fields for gasolene and for domestic lighting and heating. It is largely used in the chemical industry. Transylvania has no oil of importance, but some useful gas-fields. Crude oil is used for steam raising in the metallurgical industry and for generating electricity: it also figures as fuel in the tile and pottery industry. Oil- and petrol-driven machinery is installed in electric factories, in pottery and tile works, and particularly in the alimentary industries.

313 TIMBER, owing to the lack of good communications and to the abundance and lavish use of the forests, remains an important item in the production of power, particularly in

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652 quate means at their disposal they yet succeeded in achieving a certain measure of success, and notwithstanding the tremendous difficulties with which they had to cope. Some of the issues demanding attention were the reorganization of the administrative machinery in the newly-annexed territories, the complete overhauling of means of communication, the readjustment of agriculture, the reconstruction of the oil industry, which had greatly suffered during the war, and the necessity of providing for the needs of the army owing to the exposed geographical position of the country.

RUMANIA'S ECONOMIC POLICY

186 454 Until the advent to power in 1928 of the National Peasant Party under M. Maniu, the policy of the country was inspired by an uncompromising nationalism that tended to the complete exclusion of foreign capital so necessary for the development of Rumania. The chief instigators of this policy were the late brothers John and Vintila Bratianu, who had raised the maxim "prin noi însine" (by ourselves alone) to the sanctity of a religious dogma. The governments that had succeeded each other since the conclusion of the war, with the exception of the one presided over by M. Vaida-Voevod, were either formed by the Bratianu, or so-called Liberal Party, or by some nominees of theirs who were quite amenable to their views, so that a certain sequence in the policy pursued may be detected throughout this period, in spite of the change of persons at the helm of the State, while any divergence in their pronouncements from the original programme may be explained by the desire to allay the mistrust engendered by the Bratianu policy. The principal aim of this policy was the attainment of self-sufficiency through the industrialization of the country. This found expression in extensive legislation dealing with the development of national resources, the chief enactment being the special mining law promulgated in July, 1924.

382 471 315 The subsoil resources had already been declared national property, and the special mining law, which was aimed par-

ticularly at the oil industry, prescribed the manner in which they were to be exploited. The development of these resources was to be entrusted to corporations or "régies" in which the Government as well as private capital, both Rumanian and foreign, would participate, but in such a way as to permit of the majority of shares being controlled by the Rumanian Government. At the same time laws were enacted for increasing the utilization of methane gas (C.H.4) which was already in use both for lighting and heating purposes in Transylvania, and which is available as a large source of industrial power, its output being calculated to amount to as much as 2,000 million cubic metres per annum, the consumption of which for 1930 reached over 503 million c. metres. The methods used by the Liberal Party to secure a mainhold of the supplies of methane gas are particularly illuminating of the mentality of the leaders of that party, as they were revealed by M. Madgearu in the Rumanian Chamber in 1929. An exclusive monopoly was conferred on a group of "Liberals," who supplied the gas to industrialists at arbitrary prices so as to force the latter out of the market and leave this to rival firms belonging to adepts of the "Liberal" Party. All the efforts of the Liberal Party to promote the nationalization of this gas were aimed at securing the economic mastery of Transylvanian industries. A similar law was also passed dealing with water power, the reserves of which are estimated at 5,206,225 H.P., of which amount 735,425 h.p. represent 50 per cent of the force produced at the Iron Gates by the Danube, 1,422,465 h.p. by the tributaries of the Theiss, 2,164,748 h.p. by the Danube tributaries between the Timish and the Sereth, and the remaining 884,665 h.p. by the Sereth and its tributaries. Of all this potential force only about 52,000 h.p. is actually in use. The State owned practically the totality of the railway lines, most of the extensive fisheries in the marshes and delta of the Danube, the salt mines of Ocnele Mari, Slanic, Uioara and Targu Ocna, which are exploited as a State monopoly and assure to it a revenue of some 700 million lei per annum, over 75 per cent of the entire vast timberlands, several coal and iron mines, the gold mines in the Bihor mountains, the annual output of which is about 2,500 to 3,000 kilogrammes

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1 [July, 1924--Analyst]

The following table shows a detailed list of imports during 1930:

Imports	Tons.	Percentage of total bulk.	Value in 1,000 lei.	Percentage of total value.
Livestock	296	0.04	16,439	0.07
Animal food products	10,240	1.32	221,872	0.98
Furs	120	0.02	244,046	1.08
Leather and leather goods ...	3,309	0.43	485,519	2.15
Wool, hair and goods ...	5,907	0.76	1,365,991	9.06
Natural silk and goods ...	47	0.01	86,746	0.39
Various animal substances ...	3,977	0.51	156,554	0.70
Cereals and derivatives ...	29,802	3.85	306,702	1.36
Seeds	4,133	0.54	113,976	0.51
Vegetable oils	2,331	0.30	96,980	0.43
Vegetables, flowers, etc. ...	9,713	1.26	221,084	0.98
Fruit and groceries	33,315	4.31	818,244	3.63
Beverages	240	0.03	8,422	0.04
Sugar and confectionery ...	1,248	0.16	16,975	0.07
Vegetable textiles	49,592	6.41	6,702,290	29.73
Timber and derivatives ...	13,538	1.75	146,850	0.65
Paper and derivatives ...	13.561	1.75	524,469	2.34
Rubber celluloid & derivatives	8,183	1.05	740,386	3.28
Mineral waters and salts ...	900	0.13	8,355	0.04
Glassware	2,464	0.32	161,939	0.72
Earths, stones and derivatives	83,542	10.80	473,880	2.10
Fuel (mineral) and derivatives	180,841	23.37	302,589	1.34
Iron and ironware	236,723	30.59	3,442,482	15.28
Apparatus, machines & motors	34,604	4.47	2,836,640	12.58
Vehicles	8,539	1.10	638,734	2.83
Metals and metalloids other than iron	12,473	1.61	868,706	3.86
Toys	215	0.03	40,836	0.18
Musical instruments ...	472	0.06	139,055	0.62
Optical instruments	126	0.01	101,446	0.45
Watches and clocks	153	0.02	77,480	0.34
Jewellery	73	0.01	41,410	0.18
Chemicals and medicines ...	14,673	1.89	606,471	2.69
Perfumery	47	0.01	48,744	0.21
Colours and varnishes ...	7,620	0.89	373,402	1.66
Explosives	728	0.99	105,215	0.47
Totals	7,737,745	100.00	22,540,929	100.00

OIL & MINING INDUSTRIES

In spite of the continuous increase in the output of crude oil (the output for 1931 amounting to 48 million barrels), the industry is facing a most critical situation owing to the Russian competition and low world prices, excessive transport charges, and high taxation. Notwithstanding these adverse factors, however, the output of oil is steadily increasing, Rumania now being the fourth largest producer of petroleum, as may be seen from the following table:

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RUMANIA

Production in millions of barrels

	1931	1930	1929
U.S.A.	856	898	1007
Russia	158	135	99
Venezuela	118	137	137
Rumania	48	42	35
Persia	47	45	42

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651 According to a report published by the *Adeverul* of January 21st, 1932, of which a summary is given below, there are no signs of an early improvement:

"The recent abrogation of the law extending certain subsidies to small producers has created much dissatisfaction, for this enactment, while rescinding the advantages already granted, maintained taxes recently imposed. Only a few of the producers who possessed refineries of their own had so far been able to secure the subsidies that the law had allocated to them, and that only indirectly, as they have been simply credited with these sums, which they will eventually be allowed to use against payment of taxes to the State. As the situation of the public finances is unsatisfactory, one can scarcely hope that these subsidies will be paid out shortly to the rest of the producers.

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382 Another question which preoccupies the industry is the marketing of the heavy oil residues, the output of which in 1930 amounted to 1,959,371 metric tons. Though this residue constitutes an excellent fuel, its manipulation is difficult and necessitates a large expenditure for the construction of special receptacles. Some companies, in order to get rid of their accumulated big stocks, had recourse to a new method, that of destroying them by fire. This is a disastrous solution for all concerned, and many members of the industrial community affirm that the problem could be solved if our railway administration would reduce its transport charges, so as to permit the marketing of this product abroad at the prevailing world prices. As the railway administration, however, refuses to make concessions in the matter, the oil companies see no other solution than to construct a new special pipe-line to Constantsa, though this scheme meets with violent opposition from railway circles. . . ."

OIL AND MINING INDUSTRIES

The above article shows how erroneous were the views of 315 382
the late V. Bratianu in decreeing the nationalization of the
oil deposits in order to prevent foreign companies from
sharing in the development of the oil industry. The native
producers, being without adequate capital resources, have
been unable to take advantage of the benefits the mining law
meant to reserve for them. They have undoubtedly con-
tributed in increasing the crude oil output, but on the other
hand, not possessing the means either to provide for its
refining or its marketing, they have only contributed to-
wards creating a glut on the market which is disastrous to
themselves, but which unfortunately also affects adversely,
though to a lesser degree, the foreign companies in Rumania.

Yet it could easily have been foreseen that an increase in
the crude oil output would necessitate the expenditure of
large sums of money for the construction of refineries, stor-
age tanks, pipe-lines, tank-wagons, etc., all of which would
have to be secured from abroad, seeing that the financial re-
sources of Rumania were utterly inadequate to cope with the
demands which were made on them from all sides. The [489]
scheme for the construction of a second pipe-line from the
oil-fields to Constantsa, mooted by the companies, has been
definitely rejected owing to the intervention of the railway
administration, which naturally wanted to reserve as much
as possible of the transport of the oil for itself. It has offered
to grant increased transport facilities for oil, but it is very
doubtful whether it will be able to fulfil its promises, because
the bridge over the Danube at Cernavoda carries only a
single track and its carrying capacity is limited. The con-
struction of a second pipe-line to Constantsa therefore seems
to be indispensable. The one already existing between Ploești
and Constantsa has a total length of 320 km. Some 3,000
tons of oil may be pumped through it in 24 hours, and in
1931 the total quantity of motor oil conveyed through this
pipe-line amounted to 753,000 tons. Another pipe-line exists
between Ploești and Giurgiu, on the Danube, 180 km. in
length, but the main port by which petroleum products are
exported is Constantsa. In 1931, 3,926,247 tons were
shipped from that port.

The principal oilfields extend in a semi-circular strip on the

315 382 southern slopes of the bend of the Carpathians, where the mountains gradually merge into the plains of Wallachia and Moldavia. About two-thirds of the production is secured from the regions of Moreni and Ochiuri, the basins of the rivers Prahova and Dombovitsa furnishing almost 90 per cent of the total yield. There are minor fields farther east in the neighbourhood of Buzau, and also in Moldavia in the region of Bacau. The main oil refineries are situated at Ploești. The capital invested in the oil industry is estimated at 11 milliard lei, 60 per cent of which is Rumanian. The number of workmen employed in the industry is about 30,000. The output of crude oil for the years 1928–30 was:

Year	*Tons*	*Estimated value in lei*
1928	4,282,377	7,345,923,066
1929	4,836,974	7,441,204,190
1930	5,792,311	6,552,118,582

[471] About half of the yield was from oilfields owned by the State. The ratio for 1930 was 3,083,468 tons from State-owned oilfields, or 53.20 per cent, and 2,708,843 tons, or 46.80 per cent, from privately-owned oilfields. The quantities produced were distributed per region as follows: Prahova, 4,275,721 tons; Dambovița, 1,390,215 tons; Buzau, 61,225 tons; Bacau, 65,150 tons.

Of the total output for 1930, some 1,602,757 tons were consumed locally. At the end of June, 1932, it was reported that the total monthly output had attained about 543,000 tons, the average monthly production of the principal companies being as follows: Astra Romana, 109,464 tons; Steaua Romana, 83,667 tons; Concordia, 78,974 tons; Creditul Minier, 27,760 tons; Romano-Americana, 33,800 tons; Phoenix, 65,286 tons; Prahova, 20,878 tons; and Columbia, 17,564 tons.

315 484 232 Prices of petroleum products having dropped to the extent of 75 per cent since 1928, the Rumanian oil industry is passing through an era of grave depression which is causing a very serious repercussion on the whole economic life of the country, taking into account the great amount of capital in-

vested in it and the high contribution it is expected to make to the revenue of the State. The average price in lei of petroleum products per ton during the years 1928–31 were as follows, as reported by the Constantsa *Chamber of Commerce Bulletin*: 1928, at 4,080; 1929, at 3,800; 1930, at 2,600; 1931, at 1,031 lei. The following table, which gives quotations of the leading oil shares on the Bucarest stock market, is indicative of the depression which exists:

Average annual quotations

Share	1929	1930	*June* 1931	*June* 1932
Astra Romana ...	2391	1430	500	340
Steaua Romana ...	1234	571	230	135
Speranța	1210	639	380	100
Petrol Block ...	320	176	75	54
Concordia	1286	767	265	250
Creditul Minier ...	690	364	185	90
Redevența	321	182	65	30
I.R.D.P.	397	143	92	35

The other mineral resources of Rumania are considerable, especially in Transylvania, but no proper geological survey has ever been made, nor have any mines other than salt mines ever been properly exploited. The following figures give the quantities of minerals mined during 1930, the total value of the same being estimated at 10,437 million lei: Lignite, 2,071,057 tons; coal, 298,825 tons; copper, 6,655 tons and 169; iron, 92,517 tons; manganese, 33,528 tons; bauxite, 678 tons; pyrites, 24,264 tons; amber, 107 tons; salt, 304,777 tons; lead and antimony, 984 tons; lead glaze, 194 tons; gold, 2,672 kilograms, silver, 4.418 kilograms.

Lignite is found in extensive beds not only in Transylvania and the Banat but also in the old kingdom. It is mainly used for the railways. The better qualities of coal are found in south-western Transylvania and the Banat. Copper is principally mined at Tulcea, near the mouth of the Danube, and at Ciuc in Transylvania.

[The Banat]

[The Crisana]

The high quality of the crops in this province, amongst them wheat, maize, rye, oats, and the high standard of animal breeding, have made the Banat known far beyond the borders of Rumania. The fertility of the soil is due partly to the 'black earth' which, in a greater or lesser degree, is a component of all the arable land. Apart from being an important agricultural region, the Banat possesses valuable industries, forests and minerals. Iron ore and coal are mined in the area of Resita and Anina, where there are great iron and steel works which produce railway equipment and armaments. The Danubian port of Orsova, guarding the western entrance to the 'Iron Gates', also has an oil refinery.

The capital of the Banat is Timisoara[R] (Temesvar[H]) on the Bega with a population of 100,000. In Roman times the fortress of Ripensia was situated here. In Hunyadi's time it was a centre of resistance against the Turks, only second in importance to Belgrade. To-day the town is a great rail and road junction with many factories, banks, commercial houses and cultural institutions. Lugoj, on the Timis, with a population of 20,000, and Caransebes, north of the Porta Orientalis which leads through the mountains of the Banat to the Danube, are marketing towns of some importance.

THE CRISANA AND MARAMURES. Geographically the Crisana is the eastern borderland of the Hungarian plain. The province covers an area of about 8,400 square miles and has a population of just under 1,500,000. The Crisana lies between Transylvania in the east, the River Mures (Maros[H]) in the south; Hungary (as reduced by the Treaty of the Trianon) in the west and Czechoslovakia in the north.

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MINERAL RESOURCES. The great and varied wealth of the subsoil of Greater Rumania has been exploited only to a small degree. Apart from gold and silver, which are found in rivers and mined in Transylvania, there are iron-ore deposits estimated at about 30,000,000 tons. The average yearly production, however, amounted to only about 100,000 tons. The important alloy, manganese, found in various parts of the country, copper, zinc, chromium and bauxite all contribute to the mineral wealth of Rumania.

Through the acquisition of the New Territories the coal deposits of Greater Rumania were greatly augmented. The total coal reserves, of which the most important are situated in the western provinces and in Transylvania, were estimated at 722,000,000 tons. The average yearly production, of which two-thirds were brown coal, amounted to between 2,000,000 and 3,000,000 tons. A source of power which is not found in any other part of Europe, and which could transform and sustain Rumanian industry for many years, is the great subterranean natural gas reservoir in Transylvania which contains chemically pure methane.

Another source of energy of which only a small fraction has yet been exploited is Rumania's potential water power, estimated at 1,500,000 horse-power, which equals the energy of all the coal, oil and natural gas resources of Rumania taken together.

OIL. The centre of the Rumanian oilfields is the region of Campina and Ploesti which also has the biggest refineries for the production of petrol and aviation spirit. Oil is also found in Oltenia, Moldavia and Maramures. Crude oil was already known

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•315 in the sixteenth century when the peasants used it as lubricant and medicine and the *boiars* as fuel. In 1815 the British representative in Bucarest drew attention to the oil deposits of Muntenia, and in 1844 the first concession for their exploitation was granted by Prince Bibescu to two Russians. By 1857 the first refinery had been established in Ploesti and in the same year Bucarest became the first town whose streets were lit by oil-lamps. From that time the exploitation of Rumania's oil resources made rapid progress.

The yearly production rose from 50,000 tons in 1890 to 1,885,000 tons in 1913. The destruction of the oil wells by British engineers during the last war retarded the progress of the industry for many years. By the middle of the nineteen-twenties the pre-war record had been exceeded and production reached the record figure of over 8,500,000 tons in 1934. It decreased to about 6,250,000 tons in 1939. The estimate for 1943 was 5,000,000 tons. The export of oil and oil-products was one of the chief sources of the nation's income. The greatest quantity of oil was exported in 1936 (nearly 7,000,000 tons). The average figure was between 2,000,000 and 3,000,000 per year.

315 471 Before the Great War a considerable part of Rumania's oil industry was financed and owned by German companies. After the Peace Settlement the position changed in favour of French, American and British interests. By 1938 nine-tenths of all Rumanian oil was controlled by the British 'Royal Dutch Shell' directly or through subsidiary companies. In 1936 the published net profits of the industry amounted to 57%. Half of the 200 million dollars of foreign investments in Rumania was

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employed in the oil industry. The control of this great source of energy by British and American companies was challenged by Germany, which needed Rumania's oil for the prosecution of her imperialist aims. To-day Rumania is Germany's chief source of natural oil.

INDUSTRY AND TRADE. The industry of the Old Kingdom was hardly developed when, with the annexation of the New Territories, Rumania acquired territories comparatively rich in industrial enterprises, especially the Banat, parts of Transylvania and the Bukovina. Thereby the industrial capacity of Greater Rumania was more than double that of the Old Kingdom. Production, however, was by no means doubled. Trade and industry improved in the years 1925–9 during which considerable capital-imports were effected. The great economic crisis of the next two years hit Rumania very hard and was finally surmounted only in 1936, when the figures for production exceeded those of 1929 by 30%.

The most important Rumanian enterprises were the food, chemical, textile and metallurgical industries. The textile industry increased its output, the number of workers employed as well as the value of its production; but most branches of Rumanian industry increased only the amount and the value of their production, reducing their wage bill and the number of workers partly through the introduction of machinery.

The heavy industry, producing armaments and railway equipment, was controlled by several foreign groups, amongst them Schneider-Creusot, Skoda and Vickers. German capital was invested in the

241 The basis of Rumanian economy is agriculture, in that some 80 per cent. of the population derive their livelihood from the land and agriculture provides a high proportion of the national income. [315] During recent years, however, the expansion of the oil industry has meant that agricultural pro- [439] duce has played a decreasing part in the country's exports, having been superseded by oil, exports of which amounted to 43 per cent. of the total export trade in 1938, compared with 19 per cent. in 1927; while grain exports in 1938 represented 23 per cent. compared with 46 per cent. in 1927.

In spite of the importance of agriculture to national prosperity farming methods are backward and per acre crop yields are among the lowest in Europe. Attention is particularly given to growing cereals, and of these maize is the chief, [231] providing a large surplus for export (apart from the war years). Livestock density is low, which is one of the weaknesses of Rumanian agriculture, the Banat being the only district in which numbers [439] are fairly high, and farming approaches the intensive system. It must be stressed that the relatively large export surplus, which consists of wheat, maize, barley, oilseeds and pulses, livestock, oilcake, etc., is only made possible by the very low nutritional level which prevails, and [146] that if this were raised to anything like western European standards exports would be commensurately reduced.

248 Since the war more attention has been paid to
249 the growth of industrial crops such as sunflower, soya, cotton, hemp and flax, and the cultivation of rubber-bearing plants has been started following the finding of the *Kok Saghys* plant left by the Russians in Bessarabia. Though some success has been achieved in increasing the areas under textile fibres, and yields have been slightly higher, the hoped for increases in soya and sunflower cultivation have not been achieved due to unfavourable weather conditions and to general wartime dislocation.

313 Rumania's forest resources, though extensive, have suffered severely from a consistent policy of over-exploitation, and, while providing the basis of a fairly important industry during the period between the two wars, have been so depleted that cutting will have to be very restricted for a number of years if they are to be allowed to recover. The loss of Northern Transylvania has affected the timber industry in particular, as a high proportion of the forest resources were located there, and in that district this industry was better developed than elsewhere in the country.

IMPORTANCE OF OIL

315 Oil plays a major part, not only in Rumania's foreign trade, but also in covering her domestic fuel requirements, to a large extent replacing coal, reserves of which are small and of low quality. Since the war and the resulting pressure which Germany has exerted to obtain increased quantities of oil for her armies, (combined with the consistent drop in the rate of production between 1936 and 1941), serious attempts have been made to find alternative sources of fuel. The enormous reserves of natural gas existing in Transylvania, which were exploited only very slightly before the war, are being used increasingly as a source of fuel to supply local industries, and a

●315 pipeline has been completed from a secondary source of supply at Manești to convey this gas to Bucarest to supply both household and industrial requirements.

135 Iron-ore deposits are small, so that the heavy industries are very largely dependent on imports. A variety of other mineral resources, which are believed to exist in greater abundance than has so far been established, have not yet been fully surveyed.

433 Rumania has a poorly-developed industry, which lags far behind that of western European countries such as Czechoslovakia, though is ahead of all the other south-east European countries, except Hungary. Financially she is a poor country, with very limited capital resources, which has proved a severe hindrance to industrial development and has laid her open to the investment of foreign capital, which has been attracted particularly by the rich mineral oil and forest resources. Skilled labour, also a vital factor in the process of industrialisation, has been lacking, so that the use of foreign technicians has been essential. Other raw-material resources, though adequate to allow the development of a sound and varied industry, are not sufficiently extensive to encourage a very rapid development independent of imported raw materials.

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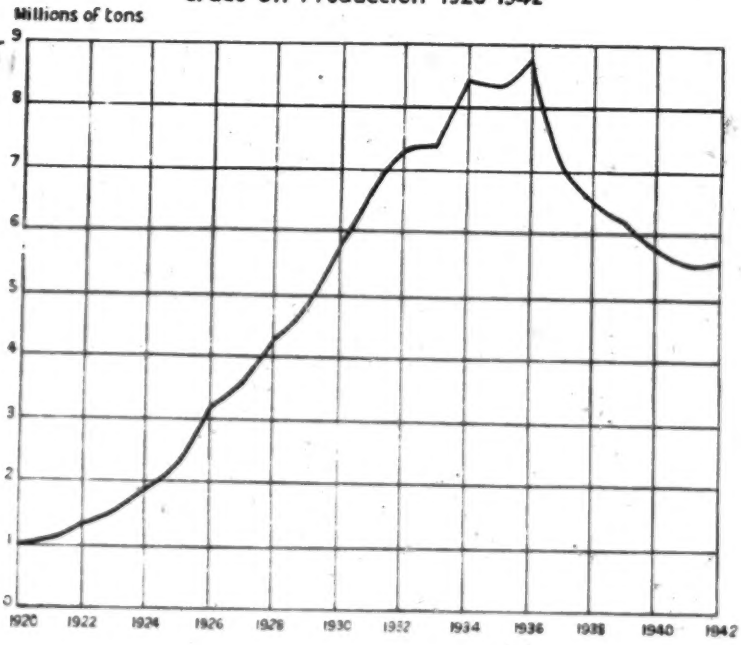
Industrialisation in Rumania did not start until about 1890, and the period of greatest expansion was between 1929 and 1938. The consumption industries were the first to be developed, and of these food industries are the chief, the raw materials being grown on the spot. The growth of such industries as paper, cardboard, printing, soap, chemicals and furniture, etc., followed. The location of industry in the earlier stages was governed not by such factors as the existence of cheap labour, but was built up in those areas richest in raw materials.

MAIN INDUSTRIAL REGIONS

[311] The main industrial region is in the Prahova valley, where the oilfields are to be found, followed by the Reșița district, where the existence of iron ore, coal, manganese, etc., led to the development of metallurgical and engineering facilities, as well as of such auxiliary industries as coal and wood distilleries. Gold, silver, lead, zinc and copper deposits in the Baia Mare region formed the basis for the erection of both metal and chemical factories. The presence of methane gas, salt, gold, silver and stone quarries in and around Turda determined the location of factories for production of cement, limestone, bricks, tiles, porcelain, glass, sulphuric acid, etc. In the rich forest districts of Ferdinand, Nadrag and Hunedoara, where iron ore deposits are also to be found, blast furnaces and metallurgical industries have been established. The textile industry is mainly established in Cisnădia, Piatra Neamț, Bacău and Buhuși. Apart from the regions mentioned, industry is centred in the principal towns—Bucarest, Timișoara, Brașov, Sf. Gheorghe, Arad, Galați, Brăila, Cernăuți, Cluj and Iași.

The following table gives an idea of the relative importance of the various industries, showing the amount of capital invested and value of production in each of the main groups, and also the number of factories and of personnel employed :—

RUMANIA
Crude-Oil Production 1920-1942



[oil]

A. INTRODUCTION

1. General

●315 Both in peace and in war, the Rumanian oil industry has played an important part in the economy of the nation. Although the numbers directly employed in the industry are comparatively small—some 40 000 men—its importance to the nation can be gauged by the fact that the 4·5 million tons of oil exported in 1938 represented a value of 9·3 milliard lei, or 43 per cent. of the total export trade of 22½ milliard lei. Not only was oil the backbone of the country's foreign trade, but the industrial and general internal economy of the country is probably more dependent on oil than any other country in Europe.

[459] War has not lessened the importance of her oil resources to Rumania—her industries and transport remain equally dependent on oil; her normal oil export trade has gone, but the Axis are greedy for every drop of oil which they can extract from Rumania, and from Rumanian wells comes almost one-third of all the liquid fuel which has to keep the wheels of Axis Europe turning. In 1940, oil exports represented 63 per cent. of the value of Rumanian exports, and whereas in 1938 30 per cent. of Germany's imports from Rumania consisted of oil, in 1940 this had risen to 56 per cent. It is undoubtedly true to say that of all the raw materials coming from outside her own borders on which German war economy is dependent, Rumanian oil is one of the most vital.

2. Historical

The first commercial oil production in the world took place in Rumania in 1854, when 275 tons were produced. From that date until 1936, with the exception of the years of the Great War, production gradually increased to a peak figure of 8·7 million tons or 3½ per cent. of world production.

The trend of production over the last 20 years is shown on the graph on the opposite page. 2 A

Although in 1942 the downward trend since 1936 may have been halted, or even reversed, this has been only by dint of a special effort to increase production and possibly uneconomic exploitation. In 1937 Rumanian geologists estimated that the country's oil reserves would be exhausted within ten years, and although declining production may be due in large part to the natural exhaustion of known fields, it is also due to the restrictions of the antiquated mining laws. These tended to curb normal expansion, and made exploratory drilling in non-proven areas so unattractive as not to be a commercial proposition, with the consequence that exploration, by which alone production could, in the long run be maintained, was neglected. These mining laws have been superseded by a new law passed in July 1942, the main provisions of which are for the express purpose of encouraging new production by the removal of the restrictions set upon prospecting in new areas. The reserves which, under the 1937 law, the State insisted on maintaining, are now sacrificed, concessions are now granted on the basis of geological structures rather than surface areas and wasteful competition is eliminated in their exploitation. The law empowers the Government to demand the modernisation of refining and drilling equipment.

A [C. D.12 -- Apr. 43]

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B. THE PETROLEUM INDUSTRY

1. Oil Production

315 There are four districts in which oil production is centred. Prahova, Dâmboviţa, Buzău and Bacău, while the town of Ploeşti is the hub of the oil industry. In 1938 out of a total production of 6·6 million tons, the Prahova district produced 3·98 million tons—2·78 from private and 1·2 from State concessions; Dâmboviţa produced 2·54 million tons, two-thirds of which came from State concessions; Buzău and Bacău produced only some 40,000 tons each. In 1941 Prahova production had dropped from 3·9 to 3·4 million tons; Dâmboviţa from 2·5 to 1·7 million tons, production from Buzău and from Bacău remaining unchanged.

[382] The wells are connected by pipeline with the refineries, all but three of which are in Ploeşti; even at the time of peak production in 1936 Rumanian refining capacity was sufficient to take care of all the crude oil production of the country. The total refinery capacity in 1938 was over 10 million tons including nearly 2 million tons of cracking capacity, but of the total capacity probably not more than half is of modern design.

2. Consumption and Exports

315 439 The following table indicates internal consumption and exports in 1938, when crude production was 6·6 million tons. Exports were made to all countries in Europe including over 700,000 tons to Germany, over 500,000 tons each to the United Kingdom and to Italy, nearly 300,000 tons each to France and Czechoslovakia, and some 400,000 tons to North Africa, of which 280,000 tons to Egypt.

1938

Internal Consumption and Exports

	Internal Consumption	*Exports*	
	'000 tons		
Crude oil	—	336	
Motor spirit	154	1,586	
Kerosine	182	827	74% via Constanţa.
Gas/Diesel oil	117	755	
Fuel oil	1,001	917	20% via Giurgiu.
Special fuel oil*	131	—	
Lubricants	24	41	
Wax, asphalt, etc.	64	30	

* Mainly for central heating.

315 Nearly 70 per cent. of internal consumption was therefore represented by fuel and special fuel oil, and this figure shows the extent to which industrial and domestic plant have been built up on the basis of burning fuel oil, and the dependence of the country on adequate supplies of fuel oil for its essential services. In this dependence will be seen some explanation of the fact that Rumania is one of the few countries in the world whose internal consumption of oil for non-military purposes has not declined in war-time.

The main consumers of fuel oil and special fuel oil were as follows:—

	Tons
Railways	195,000
Shipping Services	90,000
Industries	419,000
Power Stations	160,000
Central Heating	148,000
Agriculture and Peasant Mills	19,000

CHAPTER II

3. Transport

315 For the transport of oil both for internal consumption and for export, Rumania relied largely upon railways, and except between the wells and the refineries, only a relatively small proportion was transported by pipeline. The three main pipelines were State-owned and were laid mainly for the transport of oil for export: one for white products from Ploești to Constanța with a capacity of 810,000 tons per annum, and two lines for crude and heavy residue from Ploești to Giurgiu with a combined capacity of 300,000 tons per annum.

The total quantity of oil through three lines in 1938 was 800,000 tons: 13 per cent. of the exports from Constanța and 17 per cent. of those from Giurgiu were handled in this way as well as the internal transport of some 184,000 tons of crude oil. The Rumanian fleet of 8,000 tank cars was ample to handle all the oil transported by rail. [497]

The main channel for exports was Constanța on the Black Sea, through which 3·3 million tons were exported in 1938, as compared with only 935,000 tons through Giurgiu for transport up the Danube.

C. THE INDUSTRY IN WAR-TIME

1. General

315 722 The war has completely altered the orientation of the Rumanian oil industry: normal export trade routes through Constanța and the Mediterranean were cut and exports to most countries in Continental Europe came under German control as soon as the Germans were astride the Danube at Belgrade, and the main railways through Poland and Yugoslavia. Not only were normal export channels disrupted, but the Rumanian oil industry lost the services of all its foreign technical experts, and could no longer get from the United States supplies of drilling and refinery equipment on which it had very largely relied.

The inevitable result of all this was that in spite of the urgent need for increased production and all German efforts to obtain this, the downward production trend was not halted in 1941, and only 5,483 million tons were produced. That year was, however, one of abnormal difficulties owing to the necessity for reorganising the industry on a war-time basis, rapidly rising prices of almost everything but oil, shortage of man-power owing to Rumanian mobilisation, the difficulty of getting equipment, and above all an abnormally severe winter which hampered transport so severely that production had to be restricted for lack of storage. By dint of continuous German pressure and increased control of the industry, production in 1942 probably reached 5·6 million tons.

Internal consumption has, however, not decreased and is thought to be running at a rate of 2 million tons a year, which leaves between 3 and 3½ million tons available for the Axis and neutral countries in Europe. Italy gets approximately one million tons a year, Germany two million tons, and small quantities go to Switzerland, Sweden and Turkey.

315 439 Except during the winter months when navigation on the Danube is suspended, the majority of exports to Italy go by pipeline to Giurgiu and thence by barge to river ports in Yugoslavia or Hungary for transhipment to Italy by rail-tank car. One of the results of the reorientation of Rumania's oil export trade has been the greatly increased use made of the river port of Giurgiu.

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315 Two additional pipelines, each of 10 in. diameter, constructed largely of material removed from France, have been built between Ploești and Giurgiu, each with a capacity of over three quarters of a million tons a year.

New refinery and drilling equipment, which prior to the war Rumania used to import largely from the United States, has now to be obtained from Germany. The financial terms on which this equipment is obtained are unfavourable to Rumania and deliveries are slow.

315 **2. German Influence on the Oil Industry**

648 473 German pressure upon Rumania to obtain greater supplies of oil has been largely exerted by means of commercial penetration into the oil industry, but there is evidence that Nazi diplomats have laid particular emphasis on the German need for oil, suggesting that larger supplies might be available if production was increased and internal consumption reduced.

German penetration into the Rumanian oil industry began to take aggressive form some time before the war. The Germans first acquired a minority holding in Creditul Minier, then in 1939 secured control of Petrol-Block. The collapse of France afforded further opportunities of encroachment, and through Kontinental Oel A.G. control of Concordia and Colombia was secured; similarly, by assuming arbitrary control of Dutch interests the Germans now direct the policy of Astra-Română, the largest of the producing companies. In all, German influence through financial control now extends to about 50 per cent. of the industry and 60 per cent. of productive capacity, quite apart from the pressure the Germans can exert through control of transport out of the country. The actual effect of this influence is not easily assessed, modified as it is by Rumania's nationalistic oil legislation—particular privileges are reserved under the new mining laws for companies which can show that 75 per cent. of their capital is in Rumanian hands—and the instinctive aversion of the Government to outside control. It is, however, sufficient to ensure that German requirements have a definite priority and nationalistic as some parts of the new mining law may be, any measures serving to increase immediate production, under whatever pretext they are taken, are beneficial to Germany's interests. Tables I and II on pages 15 and 16 show the approximate strength of the oil groups by nationalities in 1940 and 1942.[1]

3. War-time Restrictions

315 135 Nearly 70 per cent. of Rumanian petroleum consumption is represented by fuel oil, and a theoretical saving could be brought about by the use of coal and natural gas. Coal resources however, are limited, and in any event a greatly increased use of coal is restricted also by the speed at which locomotives and power plants can be converted from oil to coal burning.

315 434 In November 1942 a petrol-rationing scheme was introduced, and although the allowances were on a liberal scale, the regulations do not appear to have been observed and the scheme as a whole was ineffective. In March 1943 this was admitted by the announcement that the scheme would be more strictly enforced and new ration cards issued. Simultaneously regulations were published concerning the use of taxis, and a time limit of September 1943 was set for the conversion of boiler plant.

In general, attempts to restrict consumption either by the announcement of new regulations

[1] [Cf. Cat. 315, pp. 15c and 16a-Analyst]

[14b]

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or the enforcement of old, have lately been more determined.

These measures, however, are unlikely to result in a saving of more than a quarter of a million tons a year, and rationing regulations and restrictions are probably less severe in Rumania than elsewhere in Europe.

D. NATURAL GAS

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In addition to the supplies of liquid fuel derived from her oil wells, Rumania has considerable resources of natural gas. Production of gas in the Ploești oilfield area in the years before the war was used mainly for the making of gasolene, for gas lift in wells, for heating purposes in field and refinery, and for household use. There was no surplus for use outside the Ploești district.

Of much greater importance than these supplies of casing-head gas are Rumania's resources of methane natural gas from Mănești and Transylvania. While the Mănești gas deposits were known before the war, the extent of the reserves there had not been determined.

In Transylvania the reserves are estimated at not less than [illegible] million cubic metres. Pro-

[15a]

3:5 duction has been going on since before the last war and has been restricted to the amount that can be used by consumers over the 200-mile pipeline network extending as far south as Brasov. 1941 consumption amounted to 300 million cubic metres (or 35 million cubic feet a day), equivalent to approximately 250,000 tons of oil. Industry consumed some 85 per cent. of this, the remaining 15 per cent. being used for domestic purposes.

A law passed in November 1942 laid down the conditions for the supply of natural gas to Bucarest. The State, the National Methane Co., State Railways, Gas and Electricity Supply Co., and the Municipality of Bucarest in conjunction are made responsible for the supply of gas to the capital, where public utilities will be the first to be supplied. Pipeline material was supplied by Germany, and gas has now been piped from Manesti to Bucarest, and it is hoped that it may replace fuel oil to the extent of 120,000 tons in the first year of operation in the capital. It is planned eventually to link up the Transylvanian deposits by pipeline with Bucarest via Manesti, when the combined production of the two gas sources will permit an annual consumption of some 500,000,000 cubic metres, or the equivalent of 400,000 tons of oil.

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TABLE I

APPROXIMATE STRENGTH OF OIL GROUPS BY NATIONALITIES IN 1930

	Capital		Fixed Assets		Production*	
	In millions of lei	Per cent.	In millions of lei	Per cent.	Thousands of tons	Per cent.
Anglo-French-Belgian 6 large companies 14 small companies	9,593	64·72	30,489	64·63	4,253	67·09
American 1 large company 1 small company	1,913	12·51	5,513	11·88	900	14·20
Italian 1 large company 1 small company	380	2·53	1,250	2·71	335	6·29
German	77	0·50	525	1·13	51	0·80
Rumanian 2 large companies 33 small companies	3,017	19·74	9,024	19·44	800	12·62
Total	15,280		46,401		6,339	

* The production figures shown in this Table appear to be those for 1930.

[15c]

CHAPTER II

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TABLE II

APPROXIMATE STRENGTH OF OIL GROUPS BY NATIONALITIES IN 1942

	Capital		Fixed Assets		Production*	
	In millions of lei	Per cent	In millions of lei	Per cent	Thousands of tons	Per cent
German group owns, controls or directs	3,431	22·45	11,292	24·28	1,487	23·46
American	5,795	37·91	13,288	28·03	2,301	37·24
Vacuum Oil	6	(0·03)	87	0·19	—	—
British						
Unirea	912	5·97	3,825	8·26	940	10·10
Anglo-French	2,387	15·62	8,107	17·47	740	11·67
Steaua Romana						
Anglo-French-Belgian	900	4·35	2,000	5·66	138	2·20
14 small companies						
Italian	386	2·53	1,256	2·71	235	3·25
Rumanian	1,700	11·12	5,607	12·86	531	9·08
Total	15,186		46,420		6,330	

* The production figures shown in this Table would appear to be those for 1941

[16a]

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TABLE III

PRINCIPAL RUMANIAN OIL COMPANIES, 1942

Name	Founded	Capital (mill. lei)	1940 Crude Production (tons)	Controlling interest
Astra Română	1910	2,542	1,173,256	Royal Dutch Shell
Concordia	1907	2,030	793,626	Kontinental Oel A.G.
Româno-Americana	1904	1,500	727,345	Standard Oil of New Jersey
Steaua Română	1895	1,500	640,920	French, Rumanian, British
Unirea	1921	720	652,000	General Mining Corporation
Columbia	1905	380	585,193	Kontinental Oel A.G.
Creditul Minier	1919	605	292,166	Rumanian
Prahova	1920	330	271,947	A.G.I.P. (Azienda Generale Italiana Petroli)
I.R.D.P. (Industria Romana de Petrol)	1920	120	117,925	Sudostchemie Hand. A.G. German
Petrolul Românesc	1920	120	83,327	Creditul Minier, Rumanian
Starnaphtha	1926	60	55,530	French
Foraj Lemoine	1923	44	42,058	Rumanian, Franco-Belgian
Redevenţa	1918	300	28,474	Rumanian
Foraky Românească	1922	50	25,958	German
Sondrum	1921	100	17,982	French
Petrol Block	1918	470	—	German (refining company)

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TABLE IV

PRINCIPAL RUMANIAN REFINERIES

Name	Location	Annual Capacity (tons)	Cracking Capacity (tons)
Astra Română	Ploeşti	1,750,000	600,000
Steaua Română	Câmpina	1,500,000	350,000
Concordia	Ploeşti	1,300,000	200,000
Română-Americano	Ploeşti	1,100,000	350,000
Phoenix Unirea Orion	Ploeşti	800,000	150,000
Standard Petrol Block	Ploeşti	550,000	150,000
Creditul Minier	Brazi	530,000	150,000
Columbia	Ploeşti	485,000	200,000
Unirea Speranţa	Ploeşti	400,000	—
Redevenţa	Ploeşti	230,000	—
Prahova	Bucarest	200,000	—
Lumina (Petrolmina)	Ploeşti	140,000	—
Noris	Ploeşti	50,000	—